CLAIMS

What is claimed is:

1.   A method for communicating data to at least one of a
5   plurality of receivers in a wireless communication
     system, the method comprising:
          allocating at least one channel of multiple
     available wireless channels to carry time-slotted data
     packets to a receiver on an as-needed basis; and
10   providing a preamble in a data packet, the
     preamble indicating a modulation type used in a
     transmission of a portion of the data packet.

2.   A method as in claim 1, wherein the portion of the
     data packet is a data payload that is to be decoded by
15   a target receiver to which the data packet is
     directed.

3.   A method as in claim 1, wherein data packets include a
     data payload for a target receiver and a modulation
     rate of the data payload is selected from one of
20   multiple possible rates.

4.   A method as in claim 3, wherein the modulation rate of
     the data payload is selected depending on observed
     link quality parameters of the wireless communication
     system.

25 5.   A method as in claim 1 further comprising the step of:
          encoding bits of the data payload according to a
     selected forward error correction code, the forward

error correction code for a given data packet being
selected based on observed link quality parameters of
the wireless communication system.

6. A method as in claim 5 further comprising the step of:
        providing information in the preamble of a data
packet to indicate a forward error correction code of
a corresponding data payload of the data packet.

7. A method as in claim 1, wherein the preamble includes
address information indicating to which of multiple
receivers a data packet is directed.

8. A method as in claim 1 further comprising the step of:
        decoding a preamble of received data packet at a
receiver to determine a target destination of the data
packet.

9. A method as in claim 8 further comprising the step of:
        decoding a payload of a received data packet at a
target receiver.

10. A method as in claim 1, wherein the preamble indicates
a spreading factor used in a transmission of the data
payload.

11. A method as in claim 1 further comprising the step of:
        providing information in the preamble of a data
packet to indicate which of multiple following time-
slotted data packets are directed to a target
receiver.

12. A method as in claim 1, wherein blocks of data at a transmitter of the wireless communication system are repackaged into smaller blocks that are transmitted over multiple channels in multiple time-slots, so that
5 information in received data packets can be recombined at a target receiver.

13. A method as in claim 1, wherein the channels are forward link channels between a base station and multiple receivers of a CDMA (Code Division Multiple
10 Access) communication system.

14. A method as in claim 1 further comprising:
modulating a preamble of a data packet at a different rate than a data payload portion of the data packet.

15 15. A method as in claim 1 further comprising:
at a target receiver, combining information received in multiple data packets to reconstruct a network message.

16. A method as in claim 1 further comprising:
20 assigning a time slot for use by a target receiver by transmitting a message over a dedicated channel for allocating use of wireless resources.

17. A method as in claim 1 further comprising:
at a target receiver, demodulating and decoding a
25 data payload portion of a data packet received in an assigned time slot.

18. A method for receiving data packets on one or more
     shared channels in a wireless communication system,
     the method comprising:
          synchronizing a receiver to receive data packets
5   transmitted in time-slots of at least one shared data
     channel;
          monitoring a first portion of a received data
     packet to determine to which receiver of multiple
     possible receivers sharing an assigned data channel a
10   data packet is directed and a modulation type used in
     a transmission of a corresponding data payload of the
     data packet; and
          decoding the data payload of the received data
     packet at a target receiver based on a modulation type
15   as indicated in the first portion of the received data
     packet.

19. A method as in claim 18, wherein a data payload is
     decoded according to a selected transmission rate.

20. A method as in claim 18, wherein the data payload is
20   modulated independently of the first portion of the
     data packet.

21. A method as in claim 20, wherein the data payload is
     transmitted at a different rate than the first portion
     of the data packet.

25 22. A method as in claim 21, wherein the first portion of
     a given data packet includes specific information that
     is used for decoding a payload of the corresponding
     data packet.

23. A method as in claim 18, wherein a modulation rate of the data payload depends on observed link quality parameters of a channel upon which it is transmitted.

5 24. A method as in claim 18 further comprising the step of:

decoding bits of the data payload according to a selected forward error correction code, the forward error correction code for a given data packet being
10 identified in the first portion of the corresponding data packet.

25. A method as in claim 18, wherein the first portion of a data packet includes information indicating a spreading factor of a data payload.

15 26. A method as in claim 18 further comprising the step of:

recombining payloads of multiple data packets at a target receiver to reconstruct a network message that is forwarded to a processing device.

20 27. A method as in claim 18, wherein the shared channels are forward link CDMA (code division multiple access) channels between a base station and multiple receivers.

28. A method of transmitting a data block from at least
25 one base station to one of multiple receivers in a wireless communication system, the method comprising:

reducing the data block into smaller sub-blocks;

producing data packets by appending a header label to each sub-block, the header label of a sub-block indicating how to recapture a corresponding sub-block of a data packet at a receiver; and

5   at the base station, transmitting the data block via data packets to a target receiver over at least one wireless channel by modulating the sub-block of a data packet according to corresponding information in the header label of a data packet.

10 29. A method as in claim 28, wherein the at least one wireless channel is shared and the data packets are transmitted on an as-needed basis.

30. A method as in claim 28, wherein the data packets from the base station are transmitted in time slots and the
15   receivers are synchronized to receive data transmitted in the time slots.

31. A method as in claim 28, wherein the shared channels are defined by pseudo-random noise codes of a CDMA (code division multiple access) communication system.

20 32. A method as in claim 28, wherein a data block is transmitted from a receiver to a base station over shared reverse link channels of a CDMA (Code Division Multiple Access) communication system.

25 33. A method as in claim 28, wherein a header label includes information indicating a spreading factor of a corresponding sub-block of a data packet.

34. A method as in claim 28, wherein a header label includes information indicating a forward error correction code of a corresponding sub-block of a data packet.

5 35. A method as in claim 28, wherein a header label includes address information indicating to which of multiple receivers a data packet is directed.

36. A method as in claim 28 further comprising the step of:

10   combining the data packets at a target receiver to reproduce an original data block.